WHAT IS CLAIMED IS:

1. A microarray comprising:

a support; on which is disposed;

a layer of microspheres bearing biological probes; wherein said microspheres comprise at least one material with a latent color that can be developed and used to identify said microsphere.

2. The microarray of claim 1 wherein the microspheres are arranged on the support in random or in orderly distribution.

3. The microarray of claim 1 wherein the latent colorant is capable of being developed to an optical signature.

4. The microarray of claim 3 wherein the optical signature is fluorescence, absorbence, or chemiluminescence.

5. The microarray of claim 3 wherein the latent colorant is capable of being developed to an optical signature by chemical or physical means.

6. The microarray of claim 5 wherein the chemical means is condensation reaction, acid-base reaction, redox reaction, abstraction reaction, addition reaction, elimination reaction, concerted reaction, chain propagated reaction, complexation reaction, molecular coupling reaction, rearrangement, or a combination of two or more of the foregoing.

7. The microarray of claim 5 wherein the physical means is a photo initiated process, a thermo initiated process, an ionizing radiation initiated process, an electron beam initiated process, an electrical initiated process, a pressure initiated process, a magnetic initiated process, an ultrasound initiated or a combination of two or more of the foregoing.

8. The microarray of claim 3 wherein the optical signature can be used to identify a target analyte.

9. The microarray of claim 1 wherein the material with a latent color is a leuco dye, a precursor of a leuco dye, a photographic coupler, a metal complexing ligand, a photochromic dye, or a thermochromic dye.

10. The microarray of claim 1 wherein the biological probe is bioactive.

11. The microarray of claim 10 wherein the bioactive probe comprises polynucleotide, polypeptide, polysaccharides, or small synthetic molecules.

12. The microarray of claim 1 wherein the microspheres are immobilized on a two dimensional support by chemical or physical interactions.

13. The microarray of claim 1 wherein the microspheres are immobilized on a two dimensional support by a gelation process.

14. The microarray of claim 1 wherein the microspheres have a mean diameter of 1 to 50 microns.

15. The microarray of claim 1 wherein the microspheres have a mean diameter of 5 to 20 microns.

16. The microarray of claim 1 wherein the concentration of microspheres on the support is 100 to a million per cm^2.

17. The microarray of claim 1 wherein the concentration of microspheres on the support is 10,000 to 100,000 per cm^2.

18. A method of identifying biological analytes, the method comprising the steps of:

providing an array of microspheres comprising latent colorants and biological probes;

making contact between said microspheres and said biological analytes, the analytes being labeled with optical emission tags;

allowing interaction between the biological analytes and the probes;

washing the array to remove unbound analytes;

recording signals from the optical emission tags, said signals generated from the binding of probe and analyte, and recording said signals as Image A;

developing the latent compounds in the microspheres into detectable optical signatures;

recording the optical signatures as Image B; and

comparing Images A and B to determine the identities and concentrations of the biological targets.

19. A method of identifying biological analytes, the method comprising the steps of:

providing microspheres that contain latent colorants and bear biological probes on their surfaces;

making contact between the microspheres and analytes, wherein the analytes are labeled with optical emission tags;

allowing interaction between the biological probes and the analytes;

washing microspheres to remove unbound analytes;

immobilizing said microspheres on a 2-dimensional surface of a support to form a microarray;

measuring signals from the optical emission tags, said signals generated from the interaction of probe and analyte, and recording the signals as Image A;

developing the latent colorants in the microspheres into detectable optical signatures and recording the signatures as Image B; and

comparing Images A and B to determine the identity and concentration of the analytes.